REMARKS

In the Office Action, the Examiner indicated that Claims 1 through 21 are pending in the application and the Examiner rejected all claims.

Claim Rejections, 35 U.S.C. § 102

On page 2 of the Office Action, the Examiner rejected Claims 1-21 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,353,614 to Borella et al. ("Borella").

The Present Invention

The present claimed invention discloses a method of processing a client packet in a network address translation (NAT) system. The invention first performs an initial packet address translation at the NAT machine, and then performs additional packet address translation at the individual servers, thereby allowing a direct connection between the clients and servers after the initial NAT translation. Specifically, Claim 1 states "processing a client packet sent from a client to a NAT system including a NAT machine and a plurality of servers, said NAT machine performing an inbound translation on said client packet and forwarding said translated client packet to one of the plurality or servers" (lines 1-4). Here, the NAT machine is initiating a communication session by receiving the client packet and performing an inbound translation. An inbound translation means the NAT machine receives the packet which is generically addressed to the entire system, and translates the address to specify a particular server. Claim 1 further recites:

> preparing, by said one of the plurality of servers, a response packet responsive to the client packet;
>
> performing, by said one of the plurality of servers, a translation operation on the response packet to produce a translated response packet; and
>
> transmitting the translated response packet directly to the client from said one of the plurality of servers, thereby bypassing the NAT machine. (lines 5-10)

In these steps, the forwarded packet is processed at the receiving server. The receiving server creates a response packet and translates this packet. This translation step includes including a unique address for the receiving server as opposed to the generic system address. By performing this further translation step, the receiving server and client can now communicate directly without requiring further communication with the NAT machine.

U.S. Patent No. 6,353,614 to Borella et al.

U.S. Patent No. 6,353,614 to Borella et al. ("Borella") teaches a method for distributed network address translation (DNAT). In the method, a client in a local area network (LAN) wishes to communicate with computers outside the LAN. The LAN in this example includes several clients, a NAT machine for port allocation, and several outbound servers that process data packets addressed to destinations outside the LAN. To communicate with computers outside the LAN, first a client forwards a packet to an outbound server. The outbound server processes the packet, which includes requesting a globally unique port from a NAT machine. This globally unique port will be used by the outbound server, along with a network ID used to uniquely identify the LAN, to identify which client in the LAN a response packet originating at a source outside the LAN is addressed to. This system allows the LAN to have one network ID for

addressing of packets and allows for scalability by dynamically allocating a unique port number (or set of unique port numbers) for each client.

The Cited Prior Art Does Not Anticipate the Claimed Invention

The MPEP and case law provide the following definition of anticipation for the purposes of 35 U.S.C. §102:

> A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP §2131 citing *Verdegaal Bros. v. Union Oil Company of California*, 814 F.2d 628, 631, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987).

The Examiner Has Not Established a *Prima Facie* Case of Anticipation

As noted above, the present claimed invention includes initially translating a packet received from a client at a NAT machine before forwarding the packet to a server for processing. Specifically, Claim 1 recites "said NAT machine performing an inbound translation on said client packet and forwarding said translated client packet to one of the plurality or servers". Each additional independent claim (Claims 9 and 15) state a variation of this limitation. This step of translating the packet before forwarding the packet to a server is an important feature of the present invention that is not present in the prior art, including Borella. (It should be noted that the Examiner failed to address this limitation in their rejections of independent Claims 1, 9 and 15.) By translating the packet before forwarding the packet to a server, the present invention does not need to utilize port allocation. Once the packet is translated and forwarded from the

NAT machine to a server, all further communication is done between the server and the client. The server has the capability to perform further address translation on the packets, thus eliminating a need to further communicate with the NAT machine and essentially offloading the complete address translation process from the NAT machine to the server. This is beneficial to the overall performance of the system as the NAT machine is freed to handle other addressing needs of the system. Additionally, as the client and server can communicate directly, no additional processing time is needed to transfer any additional packets.

Borella discloses a system that is entirely dependent on NAT machine communication and port allocation. Borella Figure 9 and the accompanying descriptive text (Col. 8, line 63 through Col. 9, line 16) illustrate the initial address translation. Here, it is shown that each packet needing address translation requires a server to request a globally unique port from a NAT machine. In Borella, the NAT machine pre-allocates a set of globally unique port numbers for each client. As each packet is sent out from a client to a destination outside the LAN, the server handling the transmission must request a new globally unique port from the NAT machine.

As discussed above, the present claimed invention performs inbound translation of a client packet before forwarding the packet to a server. The NAT machine of Borella never performs an inbound translation. In fact, no device in Borella ever performs an inbound translation. Borella is solely concerned with outbound translation of packets being transmitted from within to outside a local area network. The NAT machine of Borella also never forwards a

translated packet to the server. In Borella, all translation is done at the server after receiving an allocated port from the NAT machine. The NAT machine of Borella is used for port allocation solely and is never used for packet processing. This limitation of performing an inbound translation on a packet at the NAT machine is specifically claimed in independent claims 1, 9 and 15.

Additionally, Borella never achieves a communication state where communication with the NAT machine is bypassed. The servers handling outbound packets in Borella always communicate with the NAT machine for requesting port allocations. This limitation, performing the address translation to a server thereby bypassing communication with the NAT machine is also specifically claimed in independent Claims 1, 9 and 15. Accordingly, each of the independent claims, and all claims depending therefrom, patentably define over Borella and are in condition for allowance.

Conclusion

The present invention is not taught or suggested by the prior art. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection of the claims. An early Notice of Allowance is earnestly solicited.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment associated with this communication to Deposit Account No. 09-0461.

Respectfully submitted,

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Date

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